

6.1

Solving Equations by Using
Inverse Operations

LESSON 2

Jan 21-8:53 AM

Connect

SOLVING EQUATIONS:

Isolate the variable first using the **zero effect**.

If variable is **Greater than 1**, Divide by the number in front of the variable to make the variable one whole.

If variable is **less than 1**, multiply by the denominator to make the variable one whole.

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SOLVING EQUATIONS:

Equations are like balance scales (BOTH SIDES EQUAL)

WHATEVER MATHEMATICAL OPERATION
YOU DO TO THE LEFT SIDE, YOU MUST DO
THE SAME MATHEMATICAL OPERATION TO
THE RIGHT SIDE.

$$\begin{array}{rcl} +5 & = & +5 \\ -6 & = & -6 \\ \times 3 & = & \times 3 \\ \div 2 & = & \div 2 \end{array}$$

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Connect

SOLVING EQUATIONS:

EXAMPLE:

$$4t - 7 = 5$$

$$4t - 7 + 7 = 5 + 7$$

$$\frac{4t}{4} = \frac{12}{4}$$

$$t = 3$$

Things to Remember

✓ Did you isolate the variable?

Did you have to divide by the number
in front of the variable?

Did you need to get rid of the fraction?

Did you need to expand?

Did you have to collect like terms first?

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SOLVING EQUATIONS:

EXAMPLE:

$$\frac{d}{6} + 2 = 20$$

$$\frac{d}{6} + 2 - 2 = 20 - 2$$

$$\frac{d}{6} = 18$$

$$6 \left[\frac{d}{6} \right] = 6(18)$$

$$d = 108$$

Things to Remember

✓ Did you isolate the variable?

Did you have to divide by the number in front of the variable?

Did you need to get rid of the fraction?

Did you need to expand?

Did you have to collect like terms first?

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SOLVING EQUATIONS:

EXAMPLE:

$$4(w - 3) = 5$$

$$4w - 12 = 5$$

$$4w - 12 + 12 = 5 + 12$$

$$\frac{4w}{4} = \frac{17}{4}$$

$$w = \frac{17}{4}$$

Things to Remember

✓ Did you isolate the variable?

Did you have to divide by the number in front of the variable?

Did you need to get rid of the fraction?

✓ Did you need to expand?

Did you have to collect like terms first?

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SOLVING EQUATIONS:

EXAMPLE:

$$\frac{x+2}{6} = 5$$

$$6 \left[\frac{x+2}{6} \right] = 6(5)$$

$$x+2 = 30$$

$$x+2-2 = 30-2$$

$$x = 28$$

Things to Remember

✓ Did you isolate the variable?

Did you have to divide by the number in front of the variable?

✓ Did you need to get rid of the fraction?

Did you need to expand?

Did you have to collect like terms first?

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Practice

YOU TRY!

$$\frac{x-3}{5} = -7$$

$$5 \left[\frac{x-3}{5} \right] = 5(-7)$$

$$x-3 = -35$$

$$x+3+3 = -35+3$$

$$x = -32$$

$$6(x+2) = 6$$

$$x+2 = -1$$

$$x+2-2 = -1-2$$

$$x = -3$$

$$2p+3 = p-5$$

$$2p-p+3 = p-5$$

$$p+3 = -5$$

$$p+3-3 = -5-3$$

$$p = -8$$

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Practice

CLASSWORK

Question 5 - 10 on the worksheet

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